# 12. Idaho Rules and Requirements

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This section discusses the Idaho rules related to wastewater land application; there are several sets of rules with which you should become familiar:

- The first set of rules, the *Wastewater-Land Application Permit Rules* (IDAPA 58.01.17), contains the specific requirements for the permitting of wastewater land application systems.
- The second set of rules, the *Ground Water Quality Rule* (IDAPA 58.01.11), applies to ground water classification and standards. These rules are important because compliance with the Ground Water Quality Rule is a responsibility of all wastewater land application systems.
- The third set of rules, the *Water Quality Standards and Wastewater Treatment Requirements* (IDAPA 58.01.02), contains the specific requirements related to the daily responsibility and actions of wastewater land application operators.
- The fourth set of rules, the *Rules of the Board of Drinking Water and Wastewater Professionals* (IDAPA 24.05.01), contains the specific requirements for wastewater land application operator licensure.

The Water Quality Standards and Wastewater Treatment Requirements Rule (IDAPA 58.01.02), Wastewater-Land Application Permit Rule (IDAPA 58.01.17) and the Ground

Water Quality Rule (IDAPA 58.01.11) can be viewed from the Department of Environmental Quality (DEQ) Web site:

http://www.deq.idaho.gov/rules/admin_rules.cfm#links

The Rules of the Board of Drinking Water and Wastewater Professionals (IDAPA 24.05.01), can be viewed from the *Idaho Bureau of Occupational Licenses* (IBOL) Web site:

http://www.state.id.us/adm/adminrules/rules/idapa24/24.05index.htm

Each of the above rules is discussed in the following.

## 12.1 Wastewater-Land Application Permit Rules (IDAPA 58.01.17)


IDAPA 58.01.17 specifies that no person shall construct, modify, operate, or continue to operate a land application facility or other reclaimed wastewater facility without a valid permit issued by the Department of Environmental Quality.

Wastewater land application facilities are not allowed to discharge wastewater to surface waters of the state unless a *National Pollutant Discharge Elimination System* (NPDES) permit is obtained from EPA. Any intentional or unintentional diversion of wastewater from a land application system or bypassing of a land application system to surface water of the state is considered a discharge and is prohibited.

### Application Process

A detailed review of the process involved in applying for and receiving a wastewater land application permit is beyond the scope of this manual; many operators may never be involved in this process. However, the following discussion will give you an overview of the process in the event that you are involved in obtaining a permit for a new facility, an expanding facility, or a permit renewal for an existing facility.

#### *Permit Review*


DEQ, which has statutory rules and permitting authority, reviews permit applications and issues all wastewater land application permits. All applications must be submitted to DEQ with the required information, as listed in section 300.05 of the Wastewater-Land Application Permit rules. Prospective applicants are encouraged to meet with DEQ to discuss application procedures and anticipated requirements. To allow for processing time, all applications are required to be submitted 180 days prior to anticipated use.

#### *Plan of Operation/Operations and Maintenance (O&M) Manual*


A plan of operation or Operations and Maintenance (O&M) Manual—which describes in detail the operation, maintenance, and management of a wastewater land application system,—should accompany the application for all existing systems. All new systems are required to provide with the permit application a

general outline of the plan of operation. A detailed plan of operation is required at the 50% construction completion point, and the plan must be updated to reflect actual operating procedures after one (1) year of operation. All wastewater land application facilities are required to update the plan of operation as necessary to reflect current operations.

The wastewater land application permit and the O&M manual should be used

### *Notice of Completeness or Incompleteness*


Within 60 days after an application is received by DEQ, a notice of application completeness or incompleteness is issued. If the application is determined to be complete, DEQ will issue a *notice of completeness*, including the effective date of the application—which is the date of the notice—and a project schedule for processing the permit, with anticipated dates for: 1) the preliminary permit decision to prepare a draft permit or permit denial and 2) the issuance of the final permit. If the application is determined to be incomplete, DEQ will specify deficiencies in the application and request additional information.

### *Preliminary Decision*

Within 30 days of the effective date of the application, DEQ will issue the preliminary decision to prepare a draft permit or issue a permit denial. If the permit is denied, a staff analysis will be provided that covers the conditions for denial with references to supporting documents and materials.

### *Draft Permit and Staff Analysis*

Within 60 days of issuing the preliminary decision to prepare a draft permit, DEQ shall issue a draft permit and staff analysis. The staff analysis is a document that briefly states the principal facts and significant questions considered in preparing the draft permit.

After the draft permit is issued, the draft permit and staff analysis are placed on the DEQ Web site for a 30 day public comment period. After all comments from the public and applicant are addressed, a final permit is issued to the wastewater land application owner. Wastewater land application permits are issued for a fixed term of not more than five years.

## Plans and Specification Review


Prior to the construction or modification of wastewater facilities associated with a land application system, detailed plans and specifications, prepared by a professional engineer licensed in the state of Idaho, must be submitted to DEQ for review and approval. The plans and specifications shall follow wastewater land application permit rules, the guidelines stated in the *Recommended Standards for Wastewater Facilities (Ten State Standards)*, the *Idaho Standards for Public Works Construction*, the DEQ *Guidance for Land Application of Municipal and Industrial Wastewater* - October 2004 (http://www.deq.idaho.gov/water/permits_forms/permitting/guidance.cfm) and other guidance documents provided by DEQ.

Within 30 days after construction, and prior to operation of the wastewater facilities, the permittee must submit to DEQ either: 1) a certification from a professional engineer certifying that construction was completed in accordance

with the DEQ approved plans and specifications or 2) as-built plans for DEQ review and approval.

## Permit Renewals


Prior to the expiration of an existing permit, a permit renewal application must be submitted to DEQ. This application must be submitted 180 days prior to the permit expiration date to allow for processing time.

## Entry and Access


The permittee shall allow any representative of DEQ, upon presentation of credentials and with the owner's permission, to inspect any wastewater land application system at any reasonable time for the purpose of determining compliance with the system permit. DEQ representatives may inspect or copy any records that must be maintained under the terms and conditions of the permit and may obtain samples of ground water, surface water or effluent.

Generally, inspections are conducted by DEQ regional office staff. These inspections generally occur prior to the initial operation of the system, prior to operation of a monitoring well, prior to the renewal of the permit, and periodically in between these events. Systems that are out of compliance may be inspected on a more frequent basis.

## Monitoring and Reporting Requirements

The permittee shall submit reports and monitoring results to DEQ as specified in the wastewater land application permit. These reports are typically submitted on an annual basis but can be required on a monthly basis or some other frequency. The permit will specify which parameters to monitor, when to monitor, and when results must be submitted. Monitoring may include wastewater or effluent monitoring, soil and plant tissue analyses, and ground water or surface water monitoring.

### *Annual Report*


Yearly, the permittee must submit the *Annual Wastewater-Land Application Site Performance Report* ("Annual Report"), which must be prepared by a competent environmental professional no later than January 31 of each year, covering the previous year. The Annual Report includes results of required monitoring, the status of any compliance activities specified in the permit, and an interpretive discussion of monitoring data, with particular respect to environmental impacts by the facility. All laboratory reports containing the sample results for required monitoring are also submitted with the Annual Report.

### *Physical Alteration/Addition Report*


The permittee shall report to DEQ within 30 days before any planned physical alteration or addition to the permitted facility if the alteration or addition would result in a significant change in information submitted during the permit application process or would result in noncompliance with any permit condition or with the Wastewater-Land Application rule.

### *Non-Compliance Reports*


If an action of non-compliance with permit conditions or requirements occurs, this occurrence must be reported to DEQ. The permittee must report “orally” to the appropriate DEQ regional office as soon as possible, but in no case more than 24 hours from the time the permittee became aware of any noncompliance that may endanger the public health or environment.

The permittee shall report in writing, as soon as possible but within five (5) days of the date the permittee knows or should know of any noncompliance, unless extended by DEQ. This report shall contain the following:


i. A description of the noncompliance and its cause

ii. The period of noncompliance, including, to the extent possible, times and dates, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue

iii. Steps taken or planned to reduce or eliminate reoccurrence of the noncompliance

The permittee shall report to DEQ, in writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report, to DEQ . Those facts or the correct information shall be included as a part of this report.

The permitttee shall take all necessary actions to eliminate and correct any adverse impact on the public health or environment resulting from any permit noncompliance.

## Permit Requirements

A wastewater land application permit addresses the compliance needs and operational requirements of the system. It is also a legal and binding agreement and is enforceable by law. Therefore, it is extremely important for the permittee to maintain a copy of the permit and to be familiar with and fully understand the conditions of the permit.


It is the permittee's responsibility to ensure that the system is properly operated, properly maintained, and is in compliance with permit conditions and requirements. Ultimately, it is the permittee who is responsible for any violation of a permit condition or requirement, regardless of who is actually operating the system.

If the system is operated by someone other than the permittee (which is often the case), it is extremely important that the operator also be familiar with and fully understand the conditions and requirements of the permit. The operator must understand the permittee’s legal responsibilities and keep the permittee informed concerning the daily operation of the plant. If any problems occur with operations, equipment, etc., the operator must notify the permittee so decisions can be made and problems can be corrected.

### *Compliance with Permit Conditions*

All permit conditions and requirements are very important in the operation of a wastewater land application system.

**Note:** Examples of typical municipal wastewater land application system permit are included in Appendix F.


The permittee or their designee should conduct regular inspections of the wastewater land application system to prevent malfunctions and deterioration, operator errors and un-permitted discharges. An inspection log should be maintained throughout the life of the wastewater land application permit and should be accessible for immediate reference, along with the permit and the O&M manual.

Wastewater land application system permittees or operators are encouraged to request technical assistance from DEQ regional office staff for help with problems that may result in noncompliance with permit conditions or requirements.

### *Permit Modifications*

Whenever a facility expansion, production increase, or process modification is anticipated that will result in a change in the character of pollutants to be discharged, or which will result in a new or increased discharge that will exceed the conditions of the current wastewater land application permit, or if it is determined by DEQ that the terms or conditions of the permit must be modified to adequately protect the public health or environment, an application for a permit modification must be submitted to DEQ, together with plans and specifications for the proposed change. Plans must be reviewed and approved by DEQ and the new permit or permit modification must be issued prior to implementing the proposed change.


Permit modifications can be categorized as minor modifications or major modifications. *Minor modifications* are those, which if granted, would not result in any increased hazard to the environment or to the public health. Such modifications shall be made by DEQ. Minor modifications are normally limited to the following:

- correction of typographical errors
- transfer of ownership or operational control
- change in monitoring or reporting frequency

All modifications not considered minor are considered to be *major modifications*. The procedure for applying for a major modification is the same as that used for a new permit. Examples of major permit modifications include the following:

- increase in wastewater flow that exceeds the conditions of the current wastewater land application permit
- addition of wastewater land application fields
- addition of treatment components to the facility

A modification is *not* required for the replacement of components with like parts.

Permits may be transfered to a new owner or operator provided that the permittee notifies DEQ by requesting a minor modification of the permit before the date of transfer.

All system modifications must be approved prior to the initiation of the modification. If you have any questions about what is considered a modification, check with DEQ *before* any action is taken.

## Permit Revocation


DEQ may revoke a permit if the permittee violates any permit condition or violates the wastewater land application permit rules. Except in cases of emergency, DEQ shall issue a written *notice of intent to revoke* to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee requests an administrative hearing in writing. The hearing shall be conducted in accordance with IDAPA 58.01.23, *Rules of Administrative Procedure Before the Board of Environmental Quality*.

If DEQ finds the public health, safety, or welfare requires emergency action, DEQ shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, the Director shall provide the permittee a revocation hearing and prior notice thereof. Such hearings shall be conducted in accordance with IDAPA 58.01.23, Rules of Administrative Procedure Before the Board of Environmental Quality".

## Penalties for Permit Violations


Any person violating any provision of the wastewater land application permit rules, or any permit or order issued thereunder, shall be liable for a civil penalty not to exceed ten thousand dollars ($10,000) or one thousand dollars ($1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.

## Waivers

Waivers from the requirements of the wastewater land application permit rules may be granted by DEQ on a case-by-case basis upon full demonstration by the person requesting the waivers that, 1) the waivers will not have a detrimental effect upon existing water quality and uses are adequately protected, and, 2) the treatment requirements are unreasonable with current technology or are economically prohibitive.

## Backflow Prevention Assemblies


In no case shall a direct connection be made between the potable and Class A effluent system. If it is necessary to put potable water into the Class A effluent distribution system, a DEQ-approved reduced pressure principal assembly or air gap must be provided to protect the potable water system.

Any potable water used as seal water for reclaimed water pump seals shall be protected from backflow with a DEQ-approved backflow prevention device or air gap.


## Class A Operator Requirements

All operators of Class A effluent distribution systems, including operators of the distribution system from the wastewater treatment plant to the point of compliance or point of use or point of sale, as applicable, and those operators that are employed by buyers of the Class A effluent for subsequent use, must meet the following qualifications. Operators shall have a high school diploma or GED or equivalent. Operators shall be trained by a qualified manufacturer's representative, in the use and repair of the particular distribution system to be operated. Operators shall be trained in the concepts and safety issues of wastewater reuse, including viral infection issues, by the licensed operator of the particular wastewater treatment plant providing the Class A effluent to the particular distribution system in use. Contracts for sale of Class A effluent for subsequent use will also require the operators to meet these standards. Individual homeowners shall not operate or maintain Class A effluent distribution systems.


## Class A Treatment Requirements

Treatment requirements applicable to direct use of municipal reclaimed wastewater include, but are not limited to, the following. The applicable treatment requirements, buffer zones, access restrictions, disinfection requirements, uses, and other requirements are further described in the Classification Table in Subsection 600.08 of the Wastewater Land Application Permit Rules.

Class A effluent is municipal reclaimed wastewater that may be used under particular circumstances for residential irrigation at individual homes (controlled only by the system operator), ground water recharge, surface spreading, seepage ponds, other unlined water features, and other appropriate uses. Class A effluent shall be oxidized, coagulated, clarified, and filtered, or treated by an equivalent process and adequately disinfected. Enhanced filtration approval requirements, nutrient removal requirements, turbidity limits requirements, monitoring requirements, reliability and redundancy requirements, and distribution system requirements also apply. Class A treatment systems are required to be pilot tested at full scale prior to sewer hookups, lifting of sanitary restrictions, and start-up. Class A effluent shall be considered adequately disinfected if, at the point of compliance, the median number of total coliform organisms does not exceed two and two-tenths (2.2) per one hundred (100) milliliters, and does not exceed twenty-three (23) per one hundred (100) milliliters in any confirmed sample, as determined from the bacteriological results of the last seven (7) days for which analyses have been completed. For ground water recharge, surface spreading, seepage ponds, and other unlined water features, IDAPA 58.01.11, "Ground Water Quality Rule," requirements apply. For Class A effluent, analysis shall be based on daily sampling during periods of use. The point of compliance for Class A effluent for total coliform shall be in the distribution system following final treatment, final storage and disinfection contact time. Class A effluent for residential irrigation should be applied only during periods of non-use.

Total nitrogen at the point of compliance shall not exceed ten (10) mg/L based on a monthly arithmethic mean as determined from daily composite sampling. This value may be much lower depending on the results of any applicable nutrient-pathogen studies that may be required.

### *Turbidity Limits and Monitoring Requirements.*

a. One (1) in-line, continuously monitoring, recording turbidimeter is required for each treatment train.(SD2005)

b. Class A effluent shall meet the following turbidity limits. The daily arithmetic mean of all daily measurements of turbidity shall not exceed two (2) NTU, and turbidity shall not exceed five (5) NTU at any time. Turbidity shall be measured continuously. The turbidity standard shall be met prior to disinfection.

### *Reliability and Redundancy Requirements.*

a. An alternative disposal option or diversion to adequate lined storage must be automatically activated if turbidity exceeds or chlorine residual drops below the instantaneous required value for more than two (2) minutes. The maximum number of times a facility could exceed on this basis is twice in one (1) week, both of which times are required to be immediately reported. Failure to report or exceeding more than twice in one (1) week are sufficient grounds for the Department to require the system to be shut down for inspection and repair.

b. Redundant facilities, including, but not limited to, monitoring equipment and treatment trains shall be required.

c. Standby Power sufficient to maintain all treatment and distribution works shall be required for the Class A effluent use. An alternative to this is to provide standby power sufficient for basic treatment and for automatic by-pass of filtration directly to an alternative disposal option or diversion to lined storage.

d. Standby treatment filter units in fully operable condition capable of treating peak flow shall be plumbed and wired in place for immediate use. An alternative to this is automatic by-pass of filtration directly to an alternative disposal option or diversion to lined storage.

### *Other Class A Effluent Requirements.*

a. Five (5) Day Biochemical Oxygen Demand (BOD5) shall not exceed five (5) mg/L and Total Organic Carbon (TOC) shall not exceed five (5) mg/L based on a monthly arithmethic mean as determined from daily composite sampling. Composite samples shall be comprised of at least six (6) flow proportionate samples taken over a one (1) day period at the point of compliance.

b. Total Suspended Solids (TSS) prior to disinfection shall not exceed five (5) mg/L based on a monthly arithmethic mean as determined from daily composite sampling. Composite samples shall be comprised of at least six (6) flow proportionate samples taken over a one (1) day period at the point of compliance.

c. The pH as determined by daily grab samples or continuous monitoring shall be between six point zero (6.0) and nine point zero (9.0).

d. Residual Chlorine at the point of compliance shall be not less than one (1) mg/L free chlorine after a contact time of thirty (30) minutes at peak flow. If an alternate disinfection process is used, it must be demonstrated to the satisfaction of the Department that the alternative process is comparable to that achieved by chlorination with a one (1) mg/L free chlorine residual after thirty (30) minutes contact time.

e. For any type of ground water recharge system, the Class A effluent must also meet ground water quality standards per IDAPA 58.01.11, "Ground Water Quality Rule," and comply with the remaining sections of the "Ground Water Quality Rule". For these types of ground water recharge systems utilizing Class A effluent municipal reclaimed wastewater, the applicant shall propose to the Department for review and approval, the applicable testing requirements for the effluent as it relates to the primary and secondary ground water standards, as well as background ground water quality. Ground water recharge site locations shall be a minimum of two thousand (2000) feet from any drinking water extraction well and shall also provide for a minimum of one (1) year of storage in the aquifer prior to withdrawal. The Idaho Department of Water Resources requires additional permits for ground water injection wells.

f. A filter to waste operational criteria is required for all Class A effluent filtration facilities for each time a filter starts up. The filter will automatically filter to waste until the effluent meets the required turbidity standard.

g. Additional information in the form of reports by qualified soil scientists, professional geologists, professional engineers, or other qualified individuals relating to environmental assessments, nutrient management plans, or water rights issues shall be submitted to the Department at the pre-application conference or with the application and must be approved by the Department prior to permit issuance.


## Class A Effluent Identification

All new buried pipe, including service lines, valves, and other appurtenances, shall be colored purple, Pantone 512 or equivalent. If fading or discoloration of the purple pipe is experienced during construction, identification tape or locating wire along the pipe is required. Label piping every ten (10) feet "Caution: Reclaimed Water - Do Not Drink".

If identification tape is installed along with the purple pipe, it shall be prepared with white or black printing on a purple field, color Pantone 512 or equivalent, having the words, "Caution: Reclaimed Water - Do Not Drink". The overall width of the tape shall be at least three (3) inches. Identification tape shall be installed eighteen (18) inches above the transmission pipe longitudinally, shall be centered over the pipe, and shall run continuously along the length of the pipe.

Existing water lines that are being converted to use with Class A effluent shall first be accurately located and comply with leak test standards in accordance with IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," Subsection 550.06, and in coordination with the Department. The pipeline must be physically disconnected from any potable water lines and brought into compliance with current state cross connection rules and requirements (IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," Subsection 550.07), and must meet minimum separation requirements in Subsection 601.02.b. If the existing lines meet approval of the water supplier and the Department based upon the requirements set forth in Subsection 601.02.b.iii., the lines shall be approved for Class A effluent distribution. If regulatory compliance of the system (accurate location and verification of no cross connections) cannot be verified with record drawings, televising, or otherwise, the lines shall be uncovered, inspected, and identified prior to use. All accessible portions of the system must be retrofitted to

meet the requirements of these rules. After conversion of the water or irrigation line to a wastewater effluent line, the lines shall be marked as stated in Subsection 601.02.b.ii.(2).

All valve covers shall be of non-interchangeable shape with locking potable water covers, and shall have an inscription cast on the top surface stating "Reclaimed Water". Valve boxes shall meet the requirements of IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," Subsection 550.06. All above ground pipes and pumps shall be consistently color coded (purple, Pantone 512) and marked to differentiate Class A effluent facilities from potable water facilities.


All exposed and above ground piping, risers, fittings, pumps, valves, etc., shall be painted purple, Pantone 512. In addition, all piping shall be identified using an accepted means of labeling reading "Warning: Reclaimed Water - Do Not Drink". In a fenced pump station area, signs shall be posted on the fence on all sides.

All valve covers shall be of non-interchangeable shape with locking potable water covers, and shall have an inscription cast on the top surface stating "Reclaimed Water". Valve boxes shall meet the requirements of IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems," Subsection 550.06. All above ground pipes and pumps shall be consistently color coded (purple, Pantone 512) and marked to differentiate Class A effluent facilities from potable water facilities.

All storage facilities shall be identified by signs prepared according to the requirements of Subsection 601.02.e.v. Signs shall be posted on the surrounding fence at minimum five hundred (500) foot intervals and at the entrance of each facility. If there is no fence, signs shall be located at a minimum on each side of the facility or at minimum two hundred fifty (250) foot intervals or at all accessible points.

All exposed and above ground piping, risers, fittings, pumps, valves, etc., shall be painted purple, Pantone 512. In addition, all piping shall be identified using an accepted means of labeling reading "Warning: Reclaimed Water - Do Not Drink". In a fenced pump station area, signs shall be posted on the fence on all sides.

Warning labels shall be installed on designated facilities such as, but not limited to, controller panels and washdown or blow-off hydrants on water trucks, hose bibs, and temporary construction services. The labels shall read, "Warning: Reclaimed Wastewater - Do Not Drink".

Where reclaimed water is stored or impounded, or used for irrigation in public areas, warning signs shall be installed and contain, at a minimum, one (1) inch purple letters (Pantone 512 or equivalent) on a white or other high contrast background notifying the public that the water is unsafe to drink. Signs may also have a purple background with white or other high contrast lettering. Warning signs and labels shall read, "Warning: Reclaimed Wastewater - Do Not Drink". The signs shall include the international symbol for Do Not Drink.

### Rapid infiltration systems


Rapid Infiltration (RI) is the controlled application of wastewater to earthen basins in permeable soils at a rate typically measured in feet of liquid per year. Hydraulic loading rates for RI systems are usually at least an order of magnitude greater than Slow Rate systems and typically range between 20 – 600 ft/yr.

RI systems accomplish treatment through physical, chemical, and biological interactions in the soil matrix. Vegetation typically has a marginal role in RI systems and is not generally utilized by this treatment method.

RI systems operate using a cyclical pattern of wetting and drying cycles. The drying cycles are necessary to allow the soil to re-aerate between applications. The ratio of wetting/drying in successful RI systems varies based on the soil characteristics and treatment objectives, but is always less than 1.0.

The following minimum treatment requirements are established for use with RI systems:

- Suspended solids content including organic and inorganic particulate shall not exceed a thirty (30) day average concentration of one hundred (100) mg/l.
- Nitrogen (total as N) content of wastewater shall not exceed a thirty (30) day average concentration of twenty (20) mg/l.

## 12.2 Ground Water Quality Rule (IDAPA 58.01.11)


The numerical and narrative standards in sections 200 and 301 of the ground water quality rule identify minimum levels of protection for ground water quality and are used as a basis for evaluating or comparing ground water quality—when developing or modifying best management practices, identifying permit conditions, establishing cleanup levels, and determining appropriate actions when ground water quality standards are exceeded. The rule is intended to prevent degradation of the ground water beyond a level suitable for its intended best usage. Most of the standards are health-based, although the standards do recognize properties, such as taste and odor, which are non-health related but define *suitability*. Tables II and III in section 200 of the ground water quality rule define the constituent standards for drinking water.


### Numerical Ground Water Standards

Numerical ground water quality standards for constituents typically of interest at wastewater land application facilities include the following:

- Nitrate (as N): 10 mg/L
- Total Coliform: 1 colony forming unit/100 mL
- Chloride: 250 mg/L
- Total Dissolved Solids (TDS): 500 mg/L

### Ground Water Monitoring

Ground water monitoring is sometimes a permit requirement to help determine potential impacts of wastewater land application on ground water. Monitoring activities include installation of monitoring wells, sample collection and analysis of ground water, and the reporting of the compliance monitoring analytical data to DEQ.

It is in the best interest of the permittee that monitoring wells be properly located and constructed and that monitoring data be reported accurately and in a timely manner. To determine if a wastewater land application system has ground water monitoring requirements, consult the facility's wastewater land application permit.

If monitoring wells are required, a state licensed engineer or hydrogeologist must prepare a report describing the depth of the ground water and must collect samples to establish background levels for the parameters of interest. As with other types of monitoring, the system's permit will specify what parameters to monitor, when to monitor, and when results must be submitted.


When reporting ground water monitoring data, describe the well location and use the monitoring serial numbers designated in the permit. In addition, identify each well as upgradient or downgradient in relation to the wastewater land application site. Upgradient wells are used for taking background water quality samples to determine the extent of ground water contamination by the wastewater land application site.

Information concerning proper ground water monitoring well location and construction is presented in Section 3. Ground water sampling techniques are covered in Section 8, and monitoring well maintenance is described in Section 9.

## 12.3 Water Quality Standards and Wastewater Treatment Requirements (IDAPA 58.01.02)


Section 600 of the *Water Quality Standards and Wastewater Treatment Requirements* (IDAPA 58.01.02) specifies general requirements for the land application of wastewater, including that a permit is required for the land application of certain types of wastewater. Also, Sections403-405 govern the requirements for public wastewater systems to have licensed operating personnel as well as requiring system owners to designate licensed operators to be responsible for system operation. Pertinent definitions (IDAPA 58.01.02.003) in the Water Quality Standards and Wastewater Treatment Requirements include the following:

- *Responsible Charge* (RC): active, daily on-site and/or on-call responsibility for the performance of operations or active, on-going, on-site and/or on-call direction of employees and assistants.
- *Responsible Charge Operator*: operator licensed at a class equal to or greater than the classification of the system, and who has been designated by the system owner to have direct supervision of and responsibility for the performance of the operations of a specified wastewater treatment system…and the direction of personnel employed or retained at the same

system. The responsible charge operator has an active daily on-site and/or on-call presence at the specified facility.

- *Substitute Responsible Charge Operator*: A public wastewater operator holding a valid license at a class equal to or greater than the public wastewater system classification, designated by the system owner to replace and to perform the duties of the responsible charge operator when the responsible charge operator is not available or accessible.
- *Operating Personnel:* Any person who is employed, retained, or appointed to make system control or system integrity decisions about water quantity or water quality that may affect public health as part of the tasks conducted with the day-to-day operation and maintenance of a public wastewater system.

## Designation and Responsibilities of the Responsible Charge Operator

The wastewater system owner is required to designate the *Responsible Charge* (RC) operator. A system may have multiple responsible operators, or a system may have supervisors or lead operators who are not the Responsible Charge operator, but who oversee personnel or some aspect of the system. The number of designated Reponsible Charge operators versus other managers depends on the size of the system, the number of employee shifts, and job duty assignments.

Responsibilities of the designated Responsible Charge operator of a wastewater land application system include the following:

- possessing a currently valid wastewater treatment system operator license at a class equal to or greater than that of the system
- possessing a currently valid wastewater land application system operator license
- visiting the system daily and/or being on-call daily to ensure the proper operation of the system
- operating and maintaining the system efficiently and attempting to ensure compliance of the system with any permit(s) issued for the system
- documenting the operation, maintenance, and all visitation of the system
- notifying the owner, in writing, of any needed repairs or maintenance necessary to ensure the compliance of the system
- being available for consultations, emergencies, and to provide access to the system by regulatory agencies


The RC operator must have a detailed working knowledge of the wastewater land application permit and the system to maintain compliance with the facility permit conditions and state rules. A copy of the wastewater land application permit and a copy of the approved plans and specifications should be kept on site at all times. Also, phone numbers of DEQ contacts and the design engineer for the system should be handy to help address questions as they arise.

### Responsibilities of a Substitute Responsible Charge Operator

A system owner designated *Substitute RC* operator must be available at such times as the RC operator is not available. When acting as the RC operator, the substitute RC operator must fulfill all of the requirements of the RC operator listed above.

### Responsibilities of Contract Operators


Any contract operator or contract operations firm that enters into a contractual agreement with the owner of a wastewater land application system to operate the system must fulfill all the requirements of RC operator and substitute RC operator as designated above.

### License Requirements Exclusive to Wastewater-Land Application Operators

One type of wastewater land application system that is not subject to operator licensing requirements are Class A Reclaimed Wastewater Systems. Any public wastewater system operating personnel that "exclusively" operate a Class A Effluent Distribution System of a Class A Municipal Reclaimed Wastewater System permitted in accordance with IDAPA 58.01.17, "Wastewater Land Application Permit Rules," is not subject to operator licensing requirements. If an operator operates any part of the collection system or treatment system leading up to the Class A Distribution System, then that operator must hold a valid collection or treatment license. It is only if an operator does no operation of the collection or treatment system and essentially is an irrigator who distributes the Class A reclaimed wastewater that this exclusion applies.

Land application operators may be allowed a longer grace period to comply with the wastewater land application license requirement. Rule changes have been proposed during 2005 that will extend the license deadline exclusively for wastewater land application operators until April 15, 2007. Whether this possible change becomes law will not be known until Spring 2006 when the Idaho Legislative acts on the proposed language changes. If the legislature does not adopt the proposed extension, then land application operators will have to be licensed by April 2006. The licensure deadline for all other wastewater treatment and wastewater collection licenses is April 15, 2006.

## 12.4 Rules of the Board of Drinking Water and Wastewater Professionals (IDAPA 24.05.01)

In Idaho, professional and industrial licensing is conducted by the *Idaho Bureau of Occupational Licensing* (IBOL). IBOL's *Rules of the Board of Drinking Water and Wastewater Professionals* (IDAPA 24.05.01) govern the licensing of water operators, backflow assembly testers, and wastewater treatment operators. Separate licenses are available for wastewater treatment operators, wastewater collection system operators, and wastewater land application operators. These

rules pertain only to the operator licensing process; all system related rules are covered in IDAPA 58.01.02.

## Licensure of Wastewater Land Application Operators

To become licensed as a wastewater land application operator, it is recommended that you complete an approved training class; you must then meet the examination eligibility requirements for the licensure examination and pass the examination. The wastewater land application license requires an operator to submit an application to IBOL for an "initial exam" (**NOT** an application for an endorsement) for the appropriate license type and class.

Applications for examinations must be received at least 30 days prior to the next scheduled meeting of the *Idaho Board of Drinking Water and Wastewater Professionals* (WWP Board) to be reviewed. Examinations will be given only to those applicants that have been approved by the WWP Board. A passing examination score is 70% or higher.

To take the examination for licensure as a wastewater land application system operator, you must meet all of the following eligibility requirements:

- hold a high school diploma or a general educational development equivalent (GED)
- hold a current wastewater treatment license
- have a minimum of six (6) months of hands-on operating experience at a wastewater land application system

The wastewater land application operator that is a *responsible charge* or *substitute responsible charge operator* must be licensed at the type and class equal to or greater than the classification of the wastewater system.

## Responsibilities of Certified Operators

Once you have become licensed, you must fulfill the following responsibilities to maintain your license or licenses:

- Notify IBOL, in writing, within 30 days of a change of address. Notification can be made via the IBOL Web site at www.ibol.idaho.gov/wwp.htm or by email at wwp@ibol.idaho.gov.
- Pay an annual renewal fee for each license (a wastewater treatment license and a wastewater land application license are two separate licenses for which a separate annual renewal fee must be paid for each.) to IBOL upon receipt of renewal notice.
- Complete six contact hours of approved continuing education training annually. A licensee holding more than one wastewater license is required to meet the annual continuing education requirement for only one license.
- Comply with all terms and conditions of your license(s) and with all statutes and rules regarding the operation of a wastewater land application system.
- Comply with all of the requirements of your system's wastewater land application permit.

### Disciplinary Actions

Under certain circumstances, IBOL and the Board of Drinking Water and Wastewater Professionals may take disciplinary actions against a licensed operator. The WWP Board can revoke, suspend, refuse to issue, refuse to renew, or otherwise limit any licensee for any of the following:

- Procuring a license by knowingly making a false statement, submitting false information, refusing to provide complete information, in response to a question in an application for licensure or through any form of fraud or misrepresentation
- Being convicted of a felony
- Misrepresentation or fraudulent representation in the performance of any duty, conduct or activity regulated under Chapter 24, Title 54, Idaho Code
- Violating the provisions of Chapter 24, Title 54, Idaho Code, or any rules of the WWP Board, or any code of conduct or ethical standards adopted by the WWP Board
- Being negligent or incompetent
- Failing to provide appropriate and personal supervision, if acting as the designated responsible charge operator, to any person gaining experience under the provisions of Chapter 24, Title 54, Idaho Code.

As stated in the Rules of the Board of Drinking Water and Wastewater Professionals (IDAPA 24.05.01) and in Chapter 24, Title 54, Idaho Code, the WWP Board may also impose a civil fine not to exceed one thousand dollars ($1,000) or imprisonment for a period of not more than six (6) months, or both, upon a licensee for each violation of Chapter 24, Title 54, Idaho Code. In addition, the WWP Board may order a licensee to pay the costs and fees incurred by the WWP Board in the investigation or prosecution of the licensee for violation of Chapter 24, Title 54, Idaho Code.

For those of you who become licensed, be proud of your license – you worked hard to earn it. Familiarize yourself with the rules discussed in this section. For those of you who become a responsible charge or substitute responsible charge operator, also familiarize yourself with the system permit. Protect yourself and your license.

## 12.5 Other Regulations

In addition to state and federal regulations, there may be local regulations that apply to wastewater land application systems. Generally, local regulations deal with the zoning or location of wastewater land application systems rather than the actual operation of these facilities.

It is beyond the scope of this manual to review local regulations and the legal issues pertinent to them. Owners and operators of wastewater land application systems should research the pertinent local regulations to make sure they are in compliance with these, if any. Information on such regulations should be available from the county planning and zoning office or the local county health district.

Permittees of wastewater land application systems are also subject to *third-party lawsuits*. A third-party lawsuit is a lawsuit brought by a person who is not responsible for enforcing a regulation. An example could be a lawsuit brought by a neighbor, as opposed to a lawsuit brought by a local, state, or federal government agency. Third-party lawsuits are becoming more and more commonplace as subdivisions move into more rural settings. The best way to avoid such lawsuits is to keep accurate, detailed records and properly operate and maintain your wastewater land application system at all times.

## References:

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State of Idaho, Department of Environmental Quality. Guidance for Land Application of Municipal and Industrial Wastewater - October 2004

State of New York, Recommended Standards for Wastewater Facilities, 2004 Edition, Health Education Services Division, Albany, NY. Accessed at http://www.dec.state.ny.us/website/dow/10states.pdf 06/20/2005.

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